CLAIMS

What is claimed is:

1. An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having permanent magnets mounted on it;

the secondary rotary member having electroconductive elements and magnetically permeable materials;

said secondary rotary member axially overlapped by said primary rotating member wherein a means for varying said primary rotary member's axial position relative to said secondary rotating member is provided; and

said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electroconductive material on said secondary rotary member thereby generating torque and rotation in said secondary rotary member in relation to the percentage of the total area that said secondary rotary member is axially overlapped by said primary rotary member.

2. The apparatus according to claim 1 in which the primary rotary member's permanent magnets contain rare earth materials.

3. The apparatus according to claim 1 in which the primary rotary member's magnets are supported by a cylinder made of a ferrous material.

4. The apparatus according to claim 1 in which the primary rotary member's cylinder is constructed of built up thin pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

5. The apparatus according to claim 1 in which the secondary rotary member's electroconductive material is made of aluminum and its alloys.

6. The apparatus according to claim 1 in which the secondary rotary member's electroconductive material is supported by laminated pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

7. The apparatus according to claim 1 in which the primary and secondary rotary members being independently supported.

8. The apparatus according to claim 1 in which the primary rotary member's magnets axial position is adjusted by an automatic device.

9. The apparatus according to claim 1 in which the secondary rotary member's electroconductive material is made of copper and its alloys.

10. The apparatus according to claim 1 in which the secondary rotary member's electroconductive material is configured as a closed circumferential ladder geometry mounted on said secondary rotary member's outer cylindrical surface.

11. The apparatus according to claim 1 in which the secondary rotary member's electroconductive material is configured as a solid cylindrical ring geometry mounted on said secondary rotary member's outer cylindrical surface.

12. The apparatus according to claim 1 in which the primary rotary member's permanent magnets contain niodinium, iron and boron.

13. The apparatus according to claim 1 in which the primary rotary member's permanent magnets contain alnico, iron and ceramic materials.

14. An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having electroconductive elements and magnetically permeable materials;

the secondary rotary member having permanent magnets mounted on it;

said secondary rotary member axially overlapped by said primary rotating member wherein a means for varying said primary rotary member's axial position relative to said secondary rotating member can be varied; and

said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electroconductive material on said secondary rotary member thereby generating torque and rotation in said secondary rotary member in relation to the percentage of

the total area that said secondary rotary member is axially overlapped by said primary rotary member.

15. The apparatus according to claim 14 in which the secondary rotary member's permanent magnets' contain rare earth materials.

16. The apparatus according to claim 14 in which the secondary rotary member's magnets are supported by a cylinder made of a ferrous material.

17. The apparatus according to claim 14 in which the secondary rotary member's cylinder is constructed of built up thin pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

16. The apparatus according to claim 14 in which the primary rotary member's electroconductive material is made of aluminum and its alloys.

17. The apparatus according to claim 14 in which the primary rotary member's electroconductive material is supported by laminated pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

18. The apparatus according to claim 14 in which the primary and secondary rotary members being independently supported.

19. The apparatus according to claim 14 in which the secondary rotary member's magnets axial position is adjusted by an automatic device.

20. The apparatus according to claim 14 in which the secondary rotary member's permanent magnets contain niodinium, iron and boron.

21. The apparatus according to claim 14 in which the secondary rotary member's permanent magnets contain alnico, iron and ceramic materials.

22. The apparatus according to claim 14 in which the primary rotary member's electroconductive material is made of copper and its alloys.

23. The apparatus according to claim 14 in which the primary rotary member's electroconductive material is configured as a closed circumferential ladder geometry mounted on said primary rotary member's inner cylindrical surface.

24. The apparatus according to claim 14 in which the primary rotary member's electroconductive material is configured as a solid cylindrical ring geometry mounted on said primary rotary member's inner cylindrical surface.

25. An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having permanent magnets mounted on it;

the secondary rotary member having electroconductive elements and magnetically permeable materials;

said secondary rotary member axially overlapped by said primary rotating member wherein said primary rotary member's axial position relative to said secondary rotating member is fixed; and said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electroconductive material on said secondary rotary member thereby generating torque and rotation in said

secondary rotary member in relation to the percentage of the total area that said secondary rotary member is axially overlapped by said primary rotary member.

26. The apparatus according to claim 25 in which the primary rotary member's permanent magnets contain rare earth materials.

27. The apparatus according to claim 25 in which the primary rotary member's magnets are supported by a cylinder made of a ferrous material.

28. The apparatus according to claim 25 in which the primary rotary member's cylinder is constructed of built up thin pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

29. The apparatus according to claim 25 in which the secondary rotary member's electroconductive material is made of aluminum and its alloys.

30. The apparatus according to claim 25 in which the secondary rotary member's electroconductive material is supported by laminated pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

31. The apparatus according to claim 25 in which the primary and secondary rotary members being independently supported.

32. The apparatus according to claim 25 in which the primary rotary member's magnets axial position is adjusted by an automatic device.

33. The apparatus according to claim 25 in which the secondary rotary member's electroconductive material is made of copper and its alloys.

34. The apparatus according to claim 25 in which the secondary rotary member's electroconductive material is configured as a closed circumferential ladder geometry mounted on said secondary rotary member's outer cylindrical surface.

35. The apparatus according to claim 25 in which the secondary rotary member's electroconductive material is configured as a solid cylindrical ring geometry mounted on said secondary rotary member's outer cylindrical surface.

36. The apparatus according to claim 25 in which the primary rotary member's permanent magnets contain niodinium, iron and boron.

37. The apparatus according to claim 25 in which the primary rotary member's permanent magnets contain alnico, iron and ceramic materials.

38. An apparatus for transferring torque magnetically comprising:

a primary torque driving rotary member and a secondary driven rotary member;

the primary rotary member axially overlapping said secondary rotary member;

the secondary rotary member being surrounded by said primary member;

the primary rotary member having electroconductive elements and magnetically permeable materials;

the secondary rotary member having permanent magnets mounted on it;

said secondary rotary member axially overlapped by said primary rotating member wherein said primary rotary member's axial position relative to said secondary rotating member is fixed; and

said primary rotating member being connected to and driven by a torque producing device and said secondary rotating member being connected to a torque utilizing device whereby rotation of the primary rotary member causes rotation of said secondary rotating member by some or all of the magnetic flux lines emanating from said permanent magnets mounted on said primary rotating member cutting through the electroconductive

material on said secondary rotary member thereby generating torque and rotation in said secondary rotary member in relation to the percentage of the total area that said secondary rotary member is axially overlapped by said primary rotary member.

39. The apparatus according to claim 38 in which the secondary rotary member's permanent magnets' contain rare earth materials.

40. The apparatus according to claim 38 in which the secondary rotary member's magnets are supported by a cylinder made of a ferrous material.

41. The apparatus according to claim 38 in which the secondary rotary member's cylinder is constructed of built up thin pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

42. The apparatus according to claim 38 in which the primary rotary member's electroconductive material is made of aluminum and its alloys.

43. The apparatus according to claim 38 in which the primary rotary member's electroconductive material is supported by laminated pieces of ferrous material each electrically separated from one another by a suitable electrical insulating material.

44. The apparatus according to claim 38 in which the primary and secondary rotary members being independently supported.

45. The apparatus according to claim 38 in which the secondary rotary member's magnets axial position is adjusted by an automatic device.

46. The apparatus according to claim 38 in which the secondary rotary member's permanent magnets contain niodinium, iron and boron.

47. The apparatus according to claim 38 in which the secondary rotary member's permanent magnets contain alnico, iron and ceramic materials.

48. The apparatus according to claim 38 in which the primary rotary member's electroconductive material is made of copper and its alloys.

49. The apparatus according to claim 38 in which the primary rotary member's electroconductive material is configured as a closed circumferential ladder geometry mounted on said primary rotary member's inner cylindrical surface.

50. The apparatus according to claim 38 in which the primary rotary member's electroconductive material is configured as a solid cylindrical ring geometry mounted on said primary rotary member's inner cylindrical surface.